

App. No. 10/664,037

Docket No. P-6186

AMENDMENTS TO CLAIMS

This listing of claims replaces all previous listings of claims for this application:

1. (Currently Amended) A method for attaching and/or maintaining primary liver cells comprising:
 - (a) providing a polymer ~~surface~~ composition comprising a CAR material ~~to which and~~ one or more ECM proteins bound to said CAR material, wherein said CAR material and said one or more ECM proteins, and, optionally, one or more active factors, is bound, thereby formed form a cell adhesion promoting surface; and
 - (b) incubating said liver cells in the presence of said surface in a medium that supports the growth and/or maintenance of said cells;~~so that wherein~~ the liver cells attach to said surface and are maintained in a functional state.
2. (Currently Amended) The method of claim 1 wherein ~~the said one or more~~ ECM proteins ~~is~~ are selected from the group consisting of collagen I, collagen III, collagen IV, collagen VI, laminin, elastin vitronectin fibronectin.
3. (Currently Amended) The method of claim 2 wherein ~~the said one or more~~ ECM proteins ~~is~~ are selected from the group consisting of elastin, collagen I, collagen IV, and collagen VI.
4. (Currently Amended) The method of claim 1 wherein said polymer composition further comprising comprises an active factor bound to the CAR material.
5. (Original) The method of claim 4 wherein the active factor is a polycationic polymer.

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6. (Original) The method of claim 5 wherein the polycationic polymer is selected from the group consisting of polyethyleneimine (PEI), poly-D-lysine (PDL), poly-L-lysine (PLL), poly-D-ornithine (PDO) and poly-L-ornithine (PLO).

7. (Currently Amended) The method of claim 4 wherein ~~the~~ said one or more ECM proteins and said active factor are noncovalently bound to said CAR material.

8. (Currently Amended) The method of claim 4 wherein the ECM protein and active factor are covalently bound to said CAR material.

9. (Currently Amended) The method of claim 2 wherein ~~the~~ said one or more ECM proteins are elastin and collagen VI.

10. (Original) The method of claim 4 where the ECM protein is collagen I and the active factor is poly-L-ornithine.

11. (Original) The method of claim 4 where the ECM protein is collagen IV and the active factor is poly-L-ornithine.

12. (Original) The method of claim 1 wherein said CAR material is selected from the group consisting of hyaluronic acid (HA), alginic acid (AA), polyethylene glycol (PEG), polyethylene oxide (PEO), and polyhydroxyethyl methacrylate (poly-HEMA).

13. (Original) The method of claim 12 wherein the CAR material is HA.

14. (Currently Amended) The method of claim 1 wherein ~~a modified~~ said one or more ECM proteins ~~composition is~~ are in the form of a 3-dimensional (3D) scaffold.

15. (Currently Amended) The method of claim 1 wherein said ~~modified~~ polymer surface composition ~~is in the form of~~ a flexible material.

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16. (Original) The method of claim 15 wherein the flexible material is a polydimethyl siloxane (PDMS) or other silicone-based polymer.

17-57. (Canceled)

58. (New) A method for attaching and/or maintaining primary liver cells comprising:

- (a) providing a polymer composition comprising a CAR material and collagen I and poly-L-ornithine bound to said CAR material, wherein said CAR material, collagen I and poly-L-ornithine thereby form a cell adhesion promoting surface; and
- (b) incubating said liver cells in the presence of said surface in a medium that supports the growth and/or maintenance of said cells;

wherein the liver cells are maintained in a functional state.

59. (New) A method for attaching and/or maintaining primary liver cells comprising:

- (a) providing a polymer composition comprising a CAR material and collagen IV and poly-L-ornithine bound to said CAR material, wherein said CAR material, collagen IV and poly-L-ornithine thereby form a cell adhesion promoting surface; and
- (b) incubating said liver cells in the presence of said surface in a medium that supports the growth and/or maintenance of said liver cells;

wherein the liver cells are maintained in a functional state.

60. (New) A method for attaching and/or maintaining primary liver cells comprising:

- (a) providing a polymer composition comprising a CAR material and collagen VI and elastin bound to said CAR material, wherein said CAR material,

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collagen VI and elastin thereby form a cell adhesion promoting surface;
and;

- (b) incubating said liver cells in the presence of said surface in a medium that supports the growth and/or maintenance of said liver cells;

wherein the liver cells are maintained in a functional state.

61. (New) The method of claim 1 wherein the cells are rat primary liver cells or human primary liver cells.